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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/898,564	07/03/2001	Kazuto Kobayashi	MM4451	4871

1109 7590 03/08/2006  
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EXAMINER

NECKEL, ALEXA DOROSHENK

ART UNIT PAPER NUMBER

1764

DATE MAILED: 03/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/898,564

Applicant(s)

KOBAYASHI ET AL.

Examiner

Alexa D. Neckel

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 22 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) 1-3 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 4 and 5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☒ Certified copies of the priority documents have been received in Application No. 09/410,870.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 4 and 5 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Claim 4 has been amended so as to recite a central tube disposed in the center of the reactor (as opposed to the previously recited inner tube) to form a second passageway of circular cross section between the central tube and an inner tube (lines 13-16). Figure 1 clearly illustrates that central tube (7) is located centrally of each reaction tube (3) and its associated inner tube (6), rather than central to the entire reactor. It is also noted while figures 2 and 3b might superficially appear to be disclosing such a configuration, the specification states that the reactor of figure 1 is the reactor to be used in figures 2 (p. 12, lines 8-15) and 3b (p. 13, lines 3-8).

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4 and 5 continue to be rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 remains unclear as to how a reactor comprising multiple reaction tubes can have a single "charge of catalyst" when each reaction tube has its own associated bed of catalyst.

Perhaps applicant intends to recite that each reaction tube has a single catalyst bed/charge located within each first passageway.

Or perhaps applicant is attempting to exclude having additionally catalyst beds located above or below the reaction tubes. If this is the case, it is suggested that applicant amend their claims to closed transitional language, such as "consisting of", which would exclude any element not specified in the claim.

***Claim Rejections - 35 USC § 103***

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
6. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaeger (1,945,353).

With respect to claim 4, Jaeger discloses a catalytic apparatus which can be used for methanol production (p. 1, lines 95-99) comprising:

- at least one reaction tube (formed by adjacent tubes 4);
- an upper chamber (14) into which gas is fed (p. 2, lines 53-58);
- an inner tube (4) disposed almost in the center of a reaction tube to form a first passageway between the inner and reaction tubes and closed at a lower end (see fig. 2 and p. 2, lines 40) and open at an upper end to a first passageway filled with catalyst (3)

and surrounded by the reaction tube (see figure 7) which is then open to a lower chamber (15);

a central tube (formed by 5) disposed in the center of the inner tube (4) with the central tube extending downwardly from the upper chamber (14) fixed above said lower end of the reaction tube (see fig. 2);

central tube (5) is centrally located in the reactor as shown in figure 3;

an upper shielding plate (6) for partitioning the upper end of the reaction tube from the upper chamber wherein said unreacted gas flows downwards from said upper chamber through the upper part of the central tube flowing from said second passageway through said catalyst in said first passageway from the upper end of said first passageway (p. 2, lines 53-66); and

a lower shielding plate (2) for partitioning the lower end of the reaction tube (formed by adjacent tubes 4) from the lower chamber (15).

It can be seen in figure 1 of Jaeger that the reaction tubes reasonably appear to be symmetrically placed in relation to the reactor casing.

Jaeger illustrates wherein the central tube does not span the entire length of the reaction tube in order to operate, but fails to expressly state a range of acceptable lengths. Since Jaeger fails to teach a specific length for the tube, it is held that it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine operable lengths of tube by routine experimentation. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the

optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

With respect to claim 5, Jaeger further illustrated wherein the inner tube (4) is disposed vertically in the reaction tube (see fig. 1).

7. Claims 4 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaeger (1,660,511).

With respect to claim 4, Jaeger discloses a catalytic apparatus (figure 1) which can be used for methanol production (p. 11, lines 61-72) comprising:

- at least one reaction tube (formed by adjacent tubes 7);

- an upper chamber (2) into which gas is fed (p. 8, lines 3-9);

- an inner tube (7) disposed almost in the center of a reaction tube to form a first passageway between the inner and reaction tubes and closed at a lower end (see fig. 1) and open at an upper end to a first passageway filled with catalyst (6) and surrounded by the reaction tube (see figure 1) which is then open to a lower chamber (3);

- a central tube (8) disposed in the center of the inner tube (7) with the central tube extending downwardly from the upper chamber (2) fixed above said lower end of the reaction tube (see fig. 1);

- central tube (8) is centrally located in the reactor as shown in figure 7;

- an upper shielding plate (5) for partitioning the upper end of the reaction tube from the upper chamber wherein said unreacted gas flows downwards from said upper chamber through the upper part of the central tube flowing from said second

passageway through said catalyst in said first passageway from the upper end of said first passageway (see arrows of figure 1); and

a lower shielding plate (4) for partitioning the lower end of the reaction tube (formed by adjacent tubes 7) from the lower chamber (3).

It can be seen in figure 1 of Jaeger that the reaction tubes reasonably appear to be symmetrically placed in relation to the reactor casing.

Jaeger illustrates wherein the central tube does not span the entire length of the reaction tube in order to operate, but fails to expressly state a range of acceptable lengths. Since Jaeger fails to teach a specific length for the tube, it is held that it would have been obvious to one of ordinary skill in the art at the time the invention was made to determine operable lengths of tube by routine experimentation. Where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

With respect to claim 5, Jaeger further illustrated wherein the inner tube (7) is disposed vertically in the reaction tube (see fig. 1).

### ***Response to Arguments***

#### **35 USC 112**

The rejection of claim 4 under 35 USC 112, second paragraph, for insufficient antecedent basis is withdrawn due to applicant's amendment to the claim. However, the rejection under 35 USC 112, second paragraph, for lack of clarity regarding the catalyst charge is maintained and further addressed in the rejection above.

35 USC 103(a)

As can best be understood by the examiner, applicant appears to argue that a single reference cannot be applied under 35 USC 103(a).

The examiner respectfully disagrees, asserts that a single reference can be used under 35 USC 103(a), and asserts that the rejections are appropriately applied under 35 USC 103(a). Both references have been (individually) applied to identify each element of instant claim 4 which is explicitly disclosed in the reference. The examiner has then indicated the element of claim 4 which each reference fails to explicitly disclose. The examiner has then applied the principles of 35 USC 103(a) to provide for the missing feature.

If applicant has an example of a single reference being used under 35 USC 103 where no principles of 35 USC 102 have been applied, the examiner would appreciate seeing such a rejection.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971). In this case, all of the structural elements have been disclosed by the references and it has been held that that it is within the skill of the art to modify the sizes of a known apparatus to determine



the optimum workable ranges. *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

The examiners arguments with regard to the actual structural elements of Jaeger '511 (from page 8 of the remarks) are extremely confusing and unclear. Applicant has merely made assertions without making reference to particular citations within the reference, such as reference numbers from the figures or particular passages within the disclosure. As such, the examiner can only direct applicant to the rejection as applied above.

Applicant once again is making some sort of argument with regard to a single catalyst charge vs. multiple catalyst charges. Besides the 35 USC 112, second paragraph rejection presented above and in the previous Office Action, it is noted that applicant's claims contain the open transition phrase "comprising". This term is open-ended and does not limit the scope of the claimed invention to only the recited elements. MPEP 2111.03.

### ***Conclusion***

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not

mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

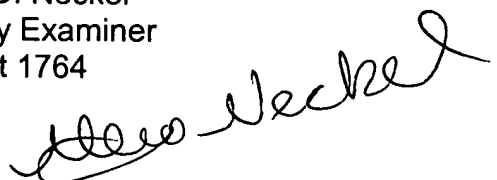
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa D. Neckel whose telephone number is 571-272-1446. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 571-272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Alexa D. Neckel  
Primary Examiner  
Art Unit 1764

March 3, 2006



ALEXA DOROSHENK NECKEL  
PRIMARY EXAMINER